

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Halek Operating MT LLC
Well Name/Number: Little Montana #1
Location: SE SE Section 35 T10N R28E
County: Musselshell, **MT;** **Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 10 to 15 days drilling time.

Unusually deep drilling (high horsepower rig): No, double derrick drilling rig, 5600' TD

Possible H2S gas production: Yes possible.

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: No special concerns – using a double derrick rig to drill to 5600' TD.

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater or freshwater mud system.

High water table: Possible high water table.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to McLean Coulee, also an ephemeral drainage. Location is about 1/16 of a mile to the east from this drainage. Within this drainage are stock ponds, about 5/8 of a mile to the northeast from this location.

Water well contamination: No, closest water well is 1 mile or further in any direction from this well location. Surface hole will be drilled with freshwater and surface casing run and cemented from 300' to surface. Mainhole will be drilled with freshwater mud. If productive 4 ½" production casing will be cemented to above the third Cat Creek Formation.

Porous/permeable soils: No, silty sandy clay soils.

Class I stream drainage: No Class I stream drainages.

Mitigation:

☐ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 300' of surface casing cemented to surface adequate to protect freshwater zones. Also, air and/or fresh water mud systems to be used. 4 ½" production casing will be cemented to above the third Cat Creek Formation.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, stream crossings anticipated. Crossing only ephemeral drainages.

High erosion potential: No, small cut, up to 2.9' and small fill, up to 2.6', required.

Loss of soil productivity: No, location will be restored after drilling in nonproductive and if productive unused portion of the drillsite will be reclaimed.

Unusually large wellsite: No, 160'X295' location size required.

Damage to improvements: Slight, surface use is a grazing land.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☐ Other _____

Comments: Surface access will be over existing county road, Four Mile Road. About 1541' of new access will be built into this location off the existing county road. Cuttings will be buried in the earthen pits. Fluids will be allowed to evaporate. Pit will be backfilled when dry. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residence is 1 mile or further away in any direction from this location. The town of Musselshell, MT is about 6.5 miles to the southeast from this location.

Possibility of H₂S: Yes H₂S, low ppms H₂S.

Size of rig/length of drilling time: Small drilling rig/short 10 to 15 days drilling time.

Mitigation:

☐ Proper BOP equipment

☐ Topographic sound barriers

☐ H₂S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Adequate surface casing and operational BOP should mitigate any problems.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Threatened or endangered species identified on the USFW website is the Black-Footed Ferret. Listed candidate species is the Greater Sage Grouse.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: No concerns. Private surface grazing land. Location is 844' west of a county gravel road, Four Mile Road. Field inspector indicates area is alkaline and boggy at the surface.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: _____

Comments: No concerns. On private surface grazing land.

Social/Economic

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: No concerns. Wildcat well.

Remarks or Special Concerns for this site

Well is a 5600' Bakken/Three Forks Formation test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impact expected. Some short term surface impacts will occur, but will be mitigated in time.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the

human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ Steven Sasaki
(title:) Chief Field Inspector
Date: May 27, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC
website

(Name and Agency)

Water wells in Musselshell County

(subject discussed)

May 21, 2010

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Musselshell County

(subject discussed)

May 21, 2010

(date)

If location was inspected before permit approval:

Inspection date: 5/13/10

Inspector: Mr. Fraser

Others present during inspection: None